

CLAIMS

1. Multilayer manufactured articles comprising at least:

A) a layer based on thermoprocessable copolymers of ethylene with chlorotrifluoroethylene, and/or tetrafluoroethylene, and with acrylic monomers of formula:

$\text{CH}_2=\text{CH}-\text{CO}-\text{O}-\text{R}_2$ (a)

wherein R_2 is a hydrogenated radical from 1 to 20 carbon atoms, of alkyl, linear or branched type, cycloalkyl type, or H; R_2 optionally contains Cl, O, N and/or one or more functional groups selected from -OH, -COOH, epoxide, ester or ether; wherein the (a) monomer amount is in the range 0.01-15% by moles with respect to the sum of the monomers of ethylene and of CTFE and/or TFE; and

B) a layer based on polyamides having an amount of $-\text{NH}_2$ end groups in the range 40-300 $\mu\text{eq/g}$, preferably 45-150 $\mu\text{eq/g}$.

2. Multilayer manufactured articles according to claim 1, in which the polyamide of B) contains one or more diamines.

3. Multilayer manufactured articles according to claims 1 and 2, wherein the thermoprocessable copolymers of layer A) are formed by:

bulk
A 1

- from 10 to 70% by moles, preferably from 35 to 55% of ethylene;
- from 30 to 90% by moles, preferably from 45 to 65%, of a fluorinated monomer selected from tetrafluoroethylene, chlorotrifluoroethylene, or mixtures thereof, preferably chlorotrifluoroethylene (CTFE);
- from 0.05% to 15% by moles of the acrylic comonomer (a) referred to the sum of the previous monomers, preferably n-butylacrylate.

4. Multilayer manufactured articles according to claims 1-3, wherein layer A) is formed by a blend of the copolymers of layer A) and the same copolymers without the acrylic monomer, provided that the blend contains an amount of acrylic monomer (a) in the range 0.01%-15% by moles with respect to the total sum of the monomers of ethylene and of CTFE and/or TFE of the blend.

5. Multilayer manufactured articles according to claims 1-4, wherein the polyamides of layer B) are formed by a blend of polyamides having different contents of $-\text{NH}_2$ end groups provided that the blend contains an amount of $-\text{NH}_2$ end groups higher than 40 $\mu\text{eq/g}$.

6. Multilayer manufactured articles according to claims 1-5, wherein layer B) is a polyamide having an amount of $-\text{NH}_2$ end groups lower than 40 $\mu\text{eq/g}$, blended with 0.01-5% by

weight, preferably 0.1-2% by weight, of one or more diamines.

7. Multilayer manufactured articles according to claim 1-6,
wherein the diamines are selected from the group formed by hexamethylenediaminecarbamate, N,N'-dicinnamylidene-1,6 hexandiamine, dodecyldiamine and decyldiamine, para-xylylendiamine.

8. Multilayer manufactured articles according to claims 1-7,
wherein on the top of layer A) a layer A1) is placed based on copolymers of ethylene with chlorotrifluoroethylene, and/or tetrafluoroethylene, not containing the acrylic monomer (a), and/or on the top of layer B), a layer B1) is placed based on polyamide having an amount of -NH₂ end groups lower than 40 μeq/g.

9. Multilayer manufactured articles according to claims 1-8,
under the form of sheath-core fibers.

10. Fuel lines formed by multilayers according to claims 1-8,
wherein at least the internal layer in contact with the liquid fuel is made conductive by incorporation of graphite and/or carbon black.